

REMARKS

Claims 10 and 12 are pending in this application. By this Amendment, claim 10 is amended for clarification purposes only. Reconsideration of the application is respectfully requested.

The courtesies extended to Applicants' representative by Examiner Jackson during the March 13, 2006, personal interview, are gratefully appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

The Office Action rejects claims 10 and 12 under 35 U.S.C. §102(e)/103(a) over O'Keefe (U.S. Patent Application Publication No. 2003/0098488). The rejection is respectfully traversed.

As agreed during the personal interview, O'Keefe fails to disclose or suggest a driving method of an electronic apparatus having an active electronic device including a carbon nanotube, a first electrode, a second electrode and a third electrode placed near the carbon nanotube to irradiate the carbon nanotube with electromagnetic waves, the method comprising causing the third electrode to output electromagnetic waves, and varying a frequency of the electromagnetic waves to control a conductance of the carbon nanotube, as recited in independent claim 10.

O'Keefe teaches a method to electronically modulate the energy gap and band structure of semiconducting carbon nanotubes by placing the nanotube in an electric field perpendicular to the tube axis (Abstract). Moreover, in the various embodiments illustrated in Figs. 8, 9A, 9B, 10A and 11, O'Keefe only teaches applying an electric field to the carbon nanotube, not an electromagnetic field, in order to control the energy gap and band structure of the semiconducting carbon nanotube (paragraphs [0052], [0053], [0054] and [0055]).

In O'Keefe, the photons are those photons that are detected by the carbon nanotube, and the frequency of these photons is not controlled to vary the conductance of the carbon nanotube because the carbon nanotube in O'Keefe is used as a photon detector that merely detects photons and has no control over them. In other words, the photons in O'Keefe are not under the control of the user in O'Keefe, and are merely detected by the structure taught in O'Keefe. Moreover, there is no motivation to bring antenna sources that generate photons in order to influence the conductance, energy gap or band structure of the carbon nanotube because such is not the teaching of O'Keefe.

The photons in O'Keefe are not generated in order to vary the conductance of the carbon nanotube, because those photons are merely detected by the structure disclosed in O'Keefe. Also, there is no basis or motivation in O'Keefe to submit the carbon nanotube to electromagnetic waves for the purpose of varying the conductance, energy gap or band structure of the semiconducting carbon nanotubes. For these reasons, O'Keefe fails to disclose, suggest or render obvious the features of independent claim 10. Accordingly, withdrawal of the rejection of claims 10 and 12 under 35 U.S.C. §102(e)/103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 10 and 12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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